

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

Claim 1. (Currently Amended) A particle for use in transport of substances through biological membranes, ~~characterised in that it~~ wherein said particle contains at least one magnetically inducible material and at least one difunctional molecule with at least one binding site for said substance and with at least one binding site for said biological membrane.

Claim 2. (Currently Amended) A particle as claimed in claim 1, ~~characterised in that~~ wherein said magnetically inducible material contains iron oxide, iron oxide hydrate, gamma Fe_2O_3 , Fe_3O_4 , iron oxides containing metal ions such as Co, Ni, Mn, Be, Mg, Ca, Ba, Sr, Cu, Zn, Pt, Al, Cr, Bi, rare earth metals or mixtures thereof.

Claim 3. (Currently Amended) A particle as claimed in claim 1 ~~or 2~~, ~~characterised in that~~ wherein said difunctional molecule is a lectin such as Concanavalin A, transferrin, avidin, selectins, DNA, RNA, antibiotics, hormones, polyelectrolytes, antibodies, antigen, synthetic peptide, peptide, virus protein, polylysin, DNA polymerase, RNA polymerase, ligase, exonucleases, endonucleases, zinc fingers, repressors or promoters.

Claim 4. (Currently Amended) A particle as claimed in ~~any one of claims 1-3,~~
~~characterised in that~~ claim 1, wherein said difunctional molecule is a recombinant
fusion protein or a fusion molecule between at least two of the following units: lectin,
such as Concanavalin A, transferrin, avidin, selectins, DNA, RNA, antibiotics,
hormones, polyelectrolytes, antibodies, antigen, synthetic peptide, peptide, virus
protein, polylysin, DNA polymerase, RNA polymerase, ligase, exonucleases,
endonucleases, zinc fingers, repressors or promoters.

Claim 5. (Currently Amended) A particle as claimed in ~~any one of claims 1-4,~~
~~characterised in that it~~ claim 1, wherein said particle is a particle with an average
diameter in the range of about 1 nm to about 10 μm .

Claim 6. (Currently Amended) A particle as claimed in ~~any one of claims 1-5,~~
~~characterised in that it~~ claim 1, wherein said particle contains an indicator such as a
colourant, a fluorescent material, a radioactive material, a chemoluminescent
material, or an enzyme.

Claim 7. (Currently Amended) A particle as claimed in ~~any one of claims 1-6,~~
~~characterised in that it~~ claim 1, wherein said particle contains a bilayer membrane
component which can be made up of, for instance, phospholipids and/or cholesterol.

Claim 8. (Currently Amended) A method for transporting substances through biological membranes, where the particle as claimed in ~~any one of claims 1-7~~ claim 1 is mixed with membrane-enclosed structures and is allowed to be incubated for about 1 min to about 3 h, after which the formed particle membrane complex is exposed to an alternating magnetic field.

Claim 9. (Original) A method as claimed in claim 8, wherein the frequency of the alternating magnetic field is within the range of about 10 Hz to about 100 MHz with a field strength within the range of about 1 to about 100 Oerstedt.

Claim 10. (Currently Amended) ~~Use of the particle as claimed in any one of claims 1-7 for membrane transport of substances such as~~ A method for transporting substances according to claim 1 wherein said substance is selected from the group consisting of DNA, RNA, PNA, protein or part thereof, peptide, viruses, polymers, pharmaceutical preparations and steroids.

Claim 11. (Currently Amended) ~~Use of the particle as claimed in any one of claims 1-7 for~~ A method for biochemical work, transfection, transformation, gene transfer, gene expression control, cell differentiation control, protein expression control, protein synthesis, *in vivo* protein activity measurement, gene modification of viruses/protozoa/mould/bacteria and/ or organelles therein/bacteriophages/plant cells and/or organelles therein/mammal cells/primary cells/stem cells wherein said particle of claim 1 is utilized.

Claim 12. (New) A particle as claimed in claim 2, wherein said difunctional molecule is a lectin such as Concanavalin A, transferrin, avidin, selectins, DNA, RNA, antibiotics, hormones, polyelectrolytes, antibodies, antigen, synthetic peptide, peptide, virus protein, polylysine, DNA polymerase, RNA polymerase, ligase, exonucleases, endonucleases, zinc fingers, repressors or promoters.

Claim 13. (New) A particle as claimed in claim 2, wherein said difunctional molecule is a recombinant fusion protein or a fusion molecule between at least two of the following units: lectin, such as Concanavalin A, transferrin, avidin, selectins, DNA, RNA, antibiotics, hormones, polyelectrolytes, antibodies, antigen, synthetic peptide, peptide, virus protein, polylysine, DNA polymerase, RNA polymerase, ligase, exonucleases, endonucleases, zinc fingers, repressors or promoters.

Claim 14. (New) A particle as claimed in claim 3, wherein said difunctional molecule is a recombinant fusion protein or a fusion molecule between at least two of the following units: lectin, such as Concanavalin A, transferrin, avidin, selectins, DNA, RNA, antibiotics, hormones, polyelectrolytes, antibodies, antigen, synthetic peptide, peptide, virus protein, polylysine, DNA polymerase, RNA polymerase, ligase, exonucleases, endonucleases, zinc fingers, repressors or promoters.

Claim 15. (New) A particle as claimed in claim 12, wherein said difunctional molecule is a recombinant fusion protein or a fusion molecule between at least two of the following units: lectin, such as Concanavalin A, transferrin, avidin, selectins, DNA, RNA, antibiotics, hormones, polyelectrolytes, antibodies, antigen, synthetic

peptide, peptide, virus protein, polylysin, DNA polymerase, RNA polymerase, ligase, exonucleases, endonucleases, zinc fingers, repressors or promoters.

Claim 16. (New) A particle as claimed in claim 2, wherein said particle is a particle with an average diameter in the range of about 1 nm to about 10 μ m.

Claim 17. (New) A particle as claimed in claim 2, wherein said particle contains an indicator such as a colourant, a fluorescent material, a radioactive material, a chemoluminescent material, or an enzyme.

Claim 18. (New) A particle as claimed in claim 2, wherein said particle contains a bilayer membrane component which can be made up of, for instance, phospholipids and/or cholesterol.

Claim 19. (New) A method for transporting substances through biological membranes, where the particle as claimed in claim 2 is mixed with membrane-enclosed structures and is allowed to be incubated for about 1 min to about 3 h, after which the formed particle membrane complex is exposed to an alternating magnetic field.

Claim 20. (New) A method for transporting substances according to claim 2 wherein said substance is selected from the group consisting of DNA, RNA, PNA, protein or part thereof, peptide, viruses, polymers, pharmaceutical preparations and steroids.